

Write your name here

Surname

Other names

**Pearson Edexcel
Functional Skills**

Centre Number

--	--	--	--	--

Candidate Number

--	--	--	--

Mathematics

Level 2



10 – 14 October 2016

Time: 1 hour 30 minutes

Paper Reference

FSM02/01

You must have:

Pen, calculator, HB pencil, eraser, ruler graduated in cm and mm, protractor, compasses.

Total Marks

My signature confirms that I will not discuss the content of the test with anyone until the end of the 5 day test window.

Signature: _____

Instructions

- Use a **black** ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Sign the declaration.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- **Calculators may be used.**

Information

- The total mark for this paper is 48.
- The marks for each question are shown in brackets – *use this as a guide as to how much time to spend on each question.*
- **You must show clearly how you get your answers because marks will be awarded for your working out.**



- **Check your working and your answers at each stage.**
- **This sign shows where marks will be awarded for showing your check.**

Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.

Turn over ►

P52530A

©2016 Pearson Education Ltd.

1/1/1



PEARSON

Section A: Yoga

Answer all questions in this section.

Write your answers in the spaces provided.

- 1 Jo runs yoga classes.
She finds this information about a yoga mat.

Yoga mat

183 cm long
61 cm wide
6 mm deep

Use: 1 foot is 12 inches
1 inch is 2.5 cm

Jo needs a mat that is at least 6 feet long.

- (a) Is this mat at least 6 feet long?
Show a check of your working.

(4)

Use the box below to show clearly how you get your answer.

Show your check in the box below.



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



Jo needs to buy some yoga mats.

She finds this information about the costs of mats.

Number of mats you buy	Cost per mat
1 to 11	£21.95
12 to 23	£15.37
24 or more	£13.17

Jo needs to

- buy at least 10 mats
- spend the smallest total cost.

(b) How many mats should Jo buy?

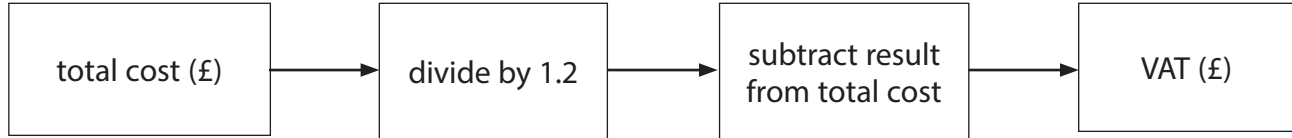
(3)

Use the box below to show clearly how you get your answer.



Jo buys the mats and some other equipment.
The total cost includes VAT.

Jo can claim back the VAT.
She uses this rule to work out the VAT.



The total cost is £591.60

(c) How much is the VAT?

(2)

Use the box below to show clearly how you get your answer.

(Total for Question 1 is 9 marks)



2 A yoga class begins at 6:45 pm.

The class lasts for $1\frac{1}{2}$ hours.
Jo needs

- 20 minutes to set up before the class begins
- 40 minutes to pack away after the class finishes.

(a) What time does Jo finish packing away after the class?

(2)

Use the box below to show clearly how you get your answer.

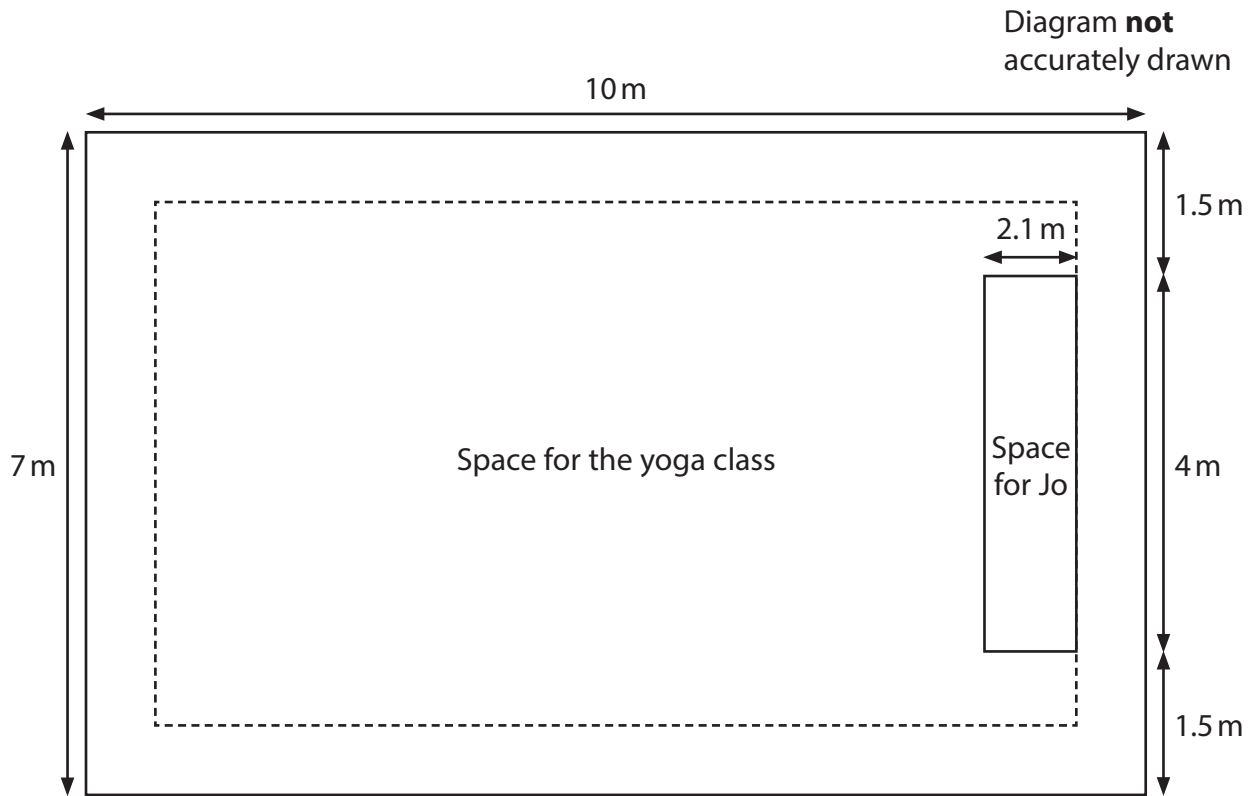


Jo uses a hall for her yoga class.
The floor of the hall is a rectangle 10 m by 7 m.

Jo needs to know how many people she can have in her class.
Each person needs a space 200 cm by 180 cm.

There must be a 60 cm gap between each wall and the space for the yoga class.

Jo draws this sketch of the hall and the space she needs.



Jo thinks she can have 9 people in her class.

(b) Does Jo have enough space for 9 people in her class?
Remember to check your working.

(5)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



Use the box below to show clearly how you get your answer.
You can show your answer on a diagram.

(Total for Question 2 is 7 marks)



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

Section B: TV sound bars

Answer all questions in this section.

Write your answers in the spaces provided.

- 3** Lucas uses internet sites to sell TV sound bars.
He has to pay a fee for each TV sound bar he sells.

One internet site charges these fees.

- £0.35 to advertise each item.
- 7.4% of the total of the selling price and the cost of postage.

Lucas sells a TV sound bar for a selling price of £99
The cost of postage for one TV sound bar is £8.99

Lucas hopes his total fee for selling one TV sound bar will be less than £8

- (a) Will Lucas' total fee be less than £8?
Show a check of your working.

(4)

Use the box below to show clearly how you get your answer.

Use the box below to show your check.



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



Lucas offers free delivery to places within a 6 mile radius of Chatham.



Key 4cm on the diagram is 5 miles on the ground

Sarah lives in Maidstone.
She buys a TV sound bar from Lucas.

Sarah wants to know if she will get free delivery.

(b) Will Sarah get free delivery?
Show why you think this.

(3)

Use the box below to show clearly how you get your answer.

Empty box for showing the answer.

(Total for Question 3 is 7 marks)

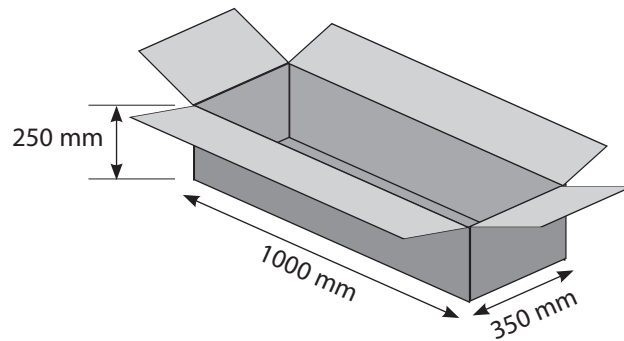


- 4 Lucas gets an order for 12 TV sound bars.
He needs to pack the TV sound bars for posting.

Each TV sound bar is in a box that is a cuboid 70 mm by 940 mm by 80 mm.

Lucas wants to pack these 12 boxes in one large box.

The large box is also a cuboid 1000 mm by 250 mm by 350 mm.



- (a) Can Lucas pack the 12 TV sound bar boxes in one large box?

(4)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



Use the box below to show clearly how you get your answer.



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



Lucas compares the cost of posting 12 TV sound bars.

He can post

- 1 box of 12 TV sound bars with a total weight of 11.3 kg
or
- 2 boxes of 6 TV sound bars, each box with a total weight of 5.7 kg.

Lucas finds this information about the cost of posting boxes.

Maximum weight	Cost
5 kg	£17.48
10 kg	£20.90
15 kg	£27.64

Lucas thinks it will be cheaper to post 12 TV sound bars in 1 box.

(b) Is Lucas correct?
Show why you think this.

(2)

Use the box below to show clearly how you get your answer.

(Total for Question 4 is 6 marks)



- 5 Lucas sells TV sound bars on different internet sites.
He gets this information from E-shop.

Feedback	Number of customer reviews
positive (P)	4357
OK	52
negative (N)	53

Lucas wants to work out his feedback rating from E-shop.

He knows his feedback rating from another site is 98.7%.
The feedback rating is given rounded to 1 decimal place.

E-shop uses this formula to work out the feedback rating (F).

$$F = \frac{P}{P+N} \times 100$$

Is the feedback rating from E-shop higher than 98.7%?
Remember to round your answer to 1 decimal place.

(3)

Use the box below to show clearly how you get your answer.

(Total for Question 5 is 3 marks)



Section C: Selling cars

Answer all questions in this section.

Write your answers in the spaces provided.

- 6 Amir is the manager at a garage.
He needs to write a report about car sales for the regional manager.

Amir has this data about the number of cars sold last year at the garage.

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Number of used cars sold	627	681	648	695
Number of new cars sold	210	218	236	219

Amir needs to show this information in a graph.

(a) Draw a graph for Amir.

(3)

Use the graph paper on the next page to draw your graph.

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



DO NOT WRITE IN THIS AREA

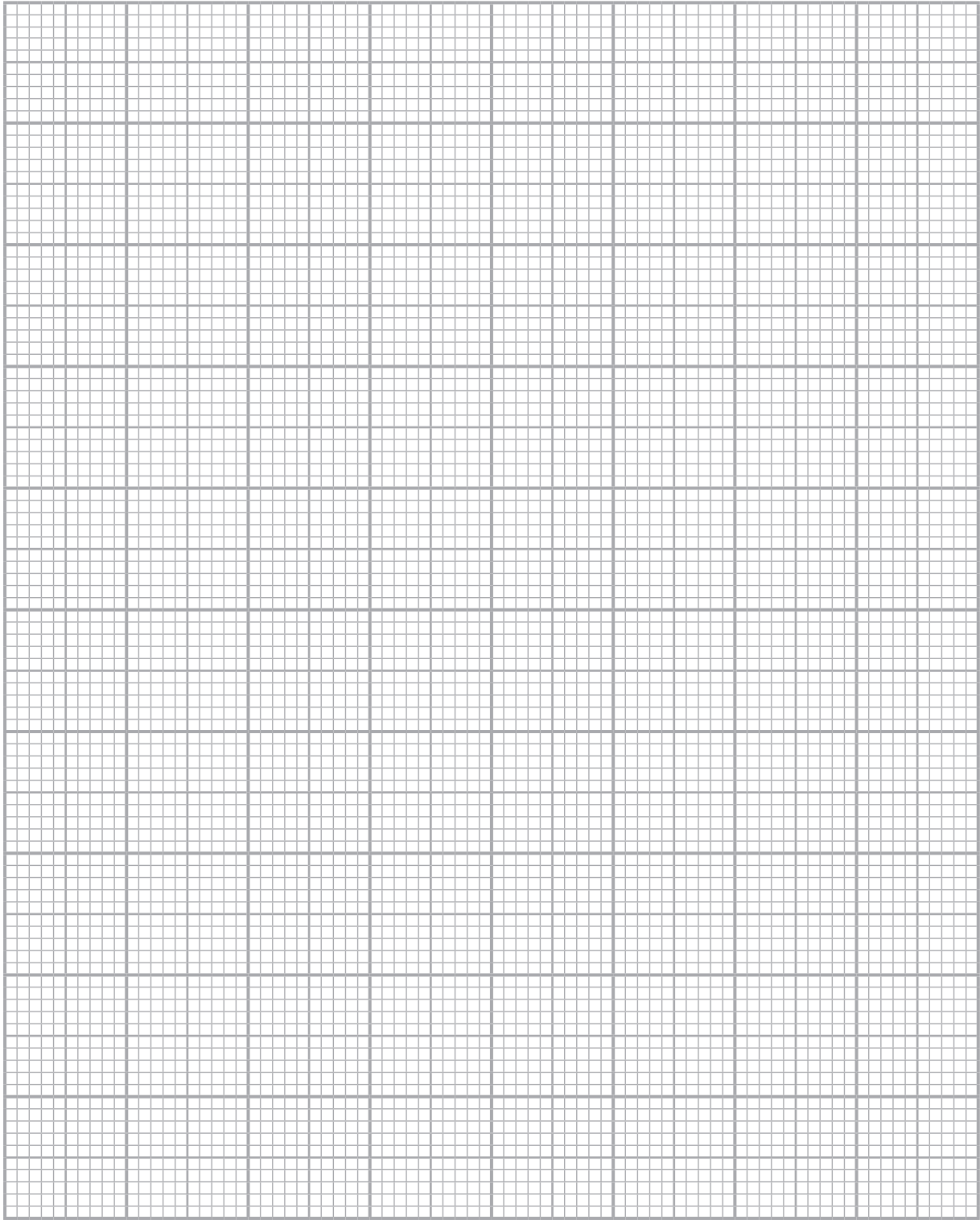
DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



Amir has this data about the number of cars sold last year at the garage.

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Number of used cars sold	627	681	648	695
Number of new cars sold	210	218	236	219

Amir thinks that $\frac{3}{4}$ of all the cars sold at the garage were used cars.

(b) Is Amir correct?
Show why you think this.

(3)

Use the box below to show clearly how you get your answer.

(Total for Question 6 is 6 marks)



7 Jill buys a car.
She knows that in the first year she will need

- to service the car
- to buy 4 new tyres.

She also wants to buy a set of car mats.

Jill considers two offers.

Price list

Service £150
Tyres £120 each
Set of car mats £45

Offer A

Pay £350

- Free service
- Free set of car mats
- $\frac{1}{3}$ off the price of tyres

Offer B

Pay £500

- Free tyres
- 35% off the price of the service

Which offer is the best value?
Show why you think this

(5)

Use the box below to show clearly how you get your answer.

(Total for Question 7 is 5 marks)



8 Amir wants to record information about the customers who buy cars from his garage.

He wants to know

- their age (18-25 or 26-50 or over 50)
- what car they buy (new or used)
- how they pay (cash or loan).

(a) Design a data collection sheet for Amir.

(3)

Use the space below for your data collection sheet.



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



Amir gets data from two new customers.

James Smith
Age range: 26-50
Buys new car
Gets a loan

Wai-Ting Li
Age range: over 50
Buys used car
Pays in cash

- (b) Enter this data into your data collection sheet.
Comment on the effectiveness of your data collection sheet. (2)

Enter the data into your data collection sheet in part (a).
Use the box below to write your comment.

(Total for Question 8 is 5 marks)

TOTAL FOR PAPER IS 48 MARKS



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

BLANK PAGE

